

Parameter	S1:Al, S2:Al, S3:Al, IS1:Al, IS2:Al
STAGE 1	STAGE 1
stage length [m]	31.2
dry mass [kg]	7214
filled propellant [kg]	95321
unuseable propellant [kg]	912
vacuum lsp [s]	322
vacuum thrust [kN]	1547
sea level thrust at takeoff [kN]	1365
engine nozzle exit area [m^2]	1.80
wall thickness [mm]	3.83
sigma [-]	0.0263
tank pressure [bara]	7.0
interstage mass [kg]	669
interstage thickness [mm]	9.9
STAGE 2	STAGE 2
stage length [m]	6.4
dry mass [kg]	1641
filled propellant [kg]	9875
unuseable propellant [kg]	65
vacuum lsp [s]	349
vacuum thrust [kN]	97
engine nozzle exit area [m^2]	1.09
wall thickness [mm]	3.83
sigma [-]	0.0583
tank pressure [bara]	7.0
interstage mass [kg]	214
interstage thickness [mm]	5.5
STAGE 3	STAGE 3
stage length [m]	1.7
fairing length [m]	4.3
dry mass [kg]	327
filled propellant [kg]	480
unusable propellant [kg]	8
vacuum lsp [s]	305
vacuum thrust [kN]	1.6
engine nozzle exit area [m^2]	0.067
aspect ratio whole rocket [-]	19.5
payload mass [kg]	2061.86